UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,665	11/27/2000	Masaaki Higashida	MAT-8014US	5725

			EXAMINER
7590	03/09/2005		MILLS, DONALD L

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ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/646,665	HIGASHIDA ET AL.
		Examiner	Art Unit
		Donald L Mills	2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 November 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-6 and 8-16</u> is/are rejected.

7)☒ Claim(s) <u>7</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/13/2004</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 2, and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by

Johnson et al. (US 5,289,476), hereinafter referred to as Johnson.

Regarding claims 1 and 14, Johnson discloses transmission mode detection in a

modulated communication system, which comprises:

Generating (Claim 1)/Means for generating (Claim14) a fixed pattern comprising 'm'

words (Referring to Figure 6A, bit sync **610** comprised of 8-bits.)

Generating (Claim 1)/Means for generating (Claim14) variable, non-random patterns of

predetermined bit structure, each pattern comprising 'n' words (Referring to Figure 6A, word

sync **611** comprised of 7-bits representing one of two states, either BPSK or QPSK. See column

10, lines 13-15.)

Generating (Claim 1)/Means for generating (Claim14) a sync pattern comprising 'q'

words formed by combining the fixed pattern and the variable pattern (Referring to Figure 6A,

the preamble comprises bit sync **610** and word sync **611**.)

Controlling (Claim 1)/Means for Controlling (Claim 14) the step for making a bit

structure included in at least two consecutive packets include different variable patterns

(Referring to Figure 6A, the transmitter sends data packets using either BPSK or QPSK on a packet by packet basis by generating the appropriate word sync pattern for each packet, thereby, making a bit structure in at least two consecutive packets which include different word syncs. See column 10, lines 18-21.)

Regarding claim 2, Johnson discloses *wherein the variable pattern comprises a plurality of words, and the variable patterns are made by changing an order of the words* (Referring to Figure 6A, word sync **611** comprised of 7-bits representing one of two states, either BPSK or QPSK. See column 10, lines 13-15.)

Regarding claim 12, Johnson discloses *the method including a step of detecting a sync* (Referring to Figure 2, the preamble is detected to identify the beginning of a data packet. See column 7, lines 58-61.)

Regarding claims 13 and 15, Johnson discloses a method and apparatus comprising:

Detecting (Claim 13)/Means for detecting (Claim 15) a sync for examining both of a fixed pattern and a variable pattern of a data received (Referring to Figure 2, the preamble is detected to identify the beginning of a data packet, the preamble comprises the bit sync and word sync. See column 7, lines 58-61.)

Securing (Claim 13)/Means for securing (Claim 15) a sync for examining only the fixed pattern (Referring to Figure 2, during synchronization the bit sync is inherently examined individually in order to determine the value of each bit.)

Wherein step (a) processes the data until the sync is secured and step (b) processes the data after the sync is secured (Referring to Figures 2 and 6A, the preamble detector process the

data packet while determining synchronization and then process the data packet. See column 7, lines 58-61.)

Regarding claim 16, Johnson discloses *adding a transmission header of 's * k' words, wherein the transmission header is divided into 'k' pieces of blocks at intervals of every 's' word* (Referring to Figure 2, the preamble comprises a carrier detect interval and a carrier sync interval, each comprised of bits. See column 7, lines 55-57.) And, *each transmission header includes the fixed pattern of 'm' words at a top thereof* (Referring to Figure 2, carrier detect interval,) *the fixed pattern employs a pattern other than patterns used in the block header* (Referring to Figure 2, the carrier detect interval is different from the carrier sync interval.)

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 3-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US 5,289,476), hereinafter referred to as Johnson.

Regarding claim 3 as explained above in the rejection statement of claim 1, Johnson discloses all of the claim limitations of claim 1 (parent claim). \

Johnson does not disclose *wherein the fixed pattern comprises three words.*

Johnson teaches bit sync **610** comprised of 8-bits (See Figure 6A.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement additional bits in the bit sync preamble data packet of Johnson. One of ordinary skill in the art would have been motivated to do so in order to provide synchronization in highly congested and interference prone areas.

Regarding claim 4 as explained above in the rejection statement of claim 1, Johnson discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the three words include 'eb', 'cb' and 'aa', expressed in a hexadecimal notation.*

Johnson teaches a word sync **611** comprised of 7-bits representing one of two states, either BPSK or QPSK (See column 10, lines 13-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine three different fixed patterns in the synchronization preamble of Johnson. One of ordinary skill in the art would have been motivated to do so in order to provide synchronization in highly congested and interference prone areas.

Regarding claim 5 as explained above in the rejection statement of claim 1, Johnson discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the variable pattern comprises five words.*

Johnson teaches a word sync **611** comprised of 7-bits representing one of two states, either BPSK or QPSK (See column 10, lines 13-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the length of the word sync to comprise five words. One of ordinary skill

in the art would have been motivated to so in order to provide synchronization in highly
congested and interference prone areas.

Regarding claim 6 as explained above in the rejection statement of claim 1, Johnson
discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the five words include '4c', 'ea', 'cd', '7a' and '81',
expressed in a hexadecimal notation.*

Johnson teaches a word sync **611** comprised of 7-bits representing one of two states,
either BPSK or QPSK (See column 10, lines 13-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention
was made to combine five different fixed patterns in the synchronization preamble of Johnson.
One of ordinary skill in the art would have been motivated to do so in order to provide
synchronization in highly congested and interference prone areas.

5.   Claims 8-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al.
(US 5,289,476), hereinafter referred to as Johnson, in view of Lawrence et al. (US 6,208,666
B1), hereinafter referred to as Lawrence.

Regarding claim 8 as explained above in the rejection statement of claim 1, Johnson
discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the packet data is a digital video signal.*

Lawrence teaches system and method for maintaining timing synchronization in a digital
video network where digital video enters customer premises **1300** from central office **400** via a
wireless communication channel **16** (See Figure 16, column 22, lines 8-9 and 16.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement synchronization preamble of Johnson in the system of Lawrence. One of ordinary skill in the art would have been motivated to so in order to utilize power lines for the transmission and reception of video data.

Regarding claim 9 as explained above in the rejection statement of claim 1, Johnson discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the digital video signal is a compressed signal.*

Lawrence teaches system and method for maintaining timing synchronization in a digital video network where compressed digital video enters customer premises **1300** from central office **400** via a wireless communication channel **16** (See Figure 16, column 22, lines 8-9 and 15-16.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement synchronization preamble of Johnson in the system of Lawrence. One of ordinary skill in the art would have been motivated to so in order to utilize power lines for the transmission and reception of video data.

Regarding claim 10 as explained above in the rejection statement of claim 1, Johnson discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the compressed signal is a DIF stream.*

Lawrence teaches system and method for maintaining timing synchronization in a digital video network where compressed digital video stream enters customer premises **1300** from central office **400** via a wireless communication channel **16** (See Figure 16, column 22, lines 8-9 and 15-16.)

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to implement synchronization preamble of Johnson in the system of Lawrence. One

of ordinary skill in the art would have been motivated to so in order to utilize power lines for the

transmission and reception of video data and support digital playback devices for video-on-

demand services.

Regarding claim 11 as explained above in the rejection statement of claim 1, Johnson

discloses all of the claim limitations of claim 1 (parent claim).

Johnson does not disclose *wherein the packet data is transmitted through an ATM*

transmission line.

Lawrence teaches system and method for maintaining timing synchronization in a digital

video network where communication is performed over connection **112** with ATM switch **102**

(See Figure 4, column 7, lines 26-27.)

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to implement synchronization preamble of Johnson in the system of Lawrence. One

of ordinary skill in the art would have been motivated to so in order to utilize power lines for the

transmission and reception of video data for Internet traffic.

Allowable Subject Matter

6.   Claim 7 is objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Response to Arguments

7.   Applicant's arguments with respect to claims 1-16 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Donald L Mills whose telephone number is 571-272-3094. The

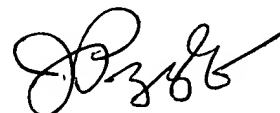examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald Mills

Dm

March 3, 2005

JOHN PEZZLO
PRIMARY EXA